

02-18-00

ET 197645-52145

A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Docket No. AUS990915US1

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of Inventor(s):

Baljeet Singh Baweja
Kulvir Singh Bhogal
Nizamudeen Ishmael, Jr.
Mandeep Singh SidhuFor: Copy/Move Graphical User Interface Apparatus and Method

Enclosed are also:

- ☒ 24 Pages of Specification including an Abstract
☒ 15 Pages of Claims
☒ 4 Sheet(s) of Drawings
☒ A Declaration and Power of Attorney
☒ Form PTO 1595 and assignment of the invention to IBM Corporation

CLAIMS AS FILED

FOR	Number Filed	Number Extra	Rate	Basic Fee (\$690)
Total Claims	63	-20 = 43	X \$ 18	= 774
Independent Claims	4	-3 = 1	X \$ 78	= 78
Multiple Dependent Claims	0		X \$ 260	= \$
Total Filing Fee				= \$1542

- ☒ Please charge \$1542.00 to IBM Corporation, Deposit Account No. 09-0447.
☒ The Commissioner is hereby authorized to charge payment of the following fees associated with the communication or credit any over payment to IBM Corporation, Deposit Account No. 09-0447. A duplicate copy of this sheet is enclosed.
☒ Any additional filing fees required under 37CFR § 1.16.
☒ Any patent application processing fees under 37CFR § 1.17.

Respectfully,

Jeffrey S. LaBay

Reg. No. 34,633

Intellectual Property Law Dept.

IBM Corporation

11400 Burnet Road 4054

Austin, Texas 75758

02/17/00
jc618 U.S. PTOjc503 U.S. PTO
09/506228
02/17/00

**Copy/Move Graphical User Interface Apparatus
and Method**

5

BACKGROUND OF THE INVENTION

1. Technical Field:

The present invention is directed to a copy/move
10 graphical user interface (GUI) apparatus and method.
Specifically, the invention is directed to a graphical
user interface for informing a user of the progress of a
copy/move operation and the functionality of allowing a
user to modify the copy/move operation during operation
15 execution.

2. Description of Related Art:

The ability to copy and/or move files from one
location in a computer system to another location is
generally known in the art. When a copy operation, for
20 example, is performed using known devices, a copy status
graphical user interface is commonly displayed showing
the name of the current file that is being copied and,
optionally, a progress status bar. The progress status
bar indicates graphically, the portion of the current
25 file that has been copied and the portion that has not
been copied. The progress status bar "fills up" from
left to right as more of the file is copied from one
location to another. When copying of a current file is
complete, the same copy status graphical user interface
30 is displayed for the next file in a series of files that
is to be copied.

The copy status graphical user interface may further
include a virtual button for canceling the copy
operation. If a user selects the virtual cancel button,

Docket No. AUS990915US1

the entire copy operation is stopped. Consequently, the current file and any other files not already copied will not be copied.

Thus, with the known devices, the copy graphical
5 user interface only informs a user of the current file being copied and does not allow a user to make modifications to the copy operation while the operation is being performed. As the present inventors have recognized, it would be advantageous to have an apparatus
10 and method for providing a copy/move graphical user interface that informs the user of the current file status, the status of other files that are to be copied/moved in the copy/move operation, and that allows a user to make modifications to the copy/move operation
15 while the copy/move operation is being performed.

SUMMARY OF THE INVENTION

5 The invention provides a copy/move graphical user interface apparatus and method. With the present invention, a copy/move instruction is received from a user via an input device. The received copy/move instruction indicates the files that are to be copied and
10 the destination location of the copied files. In response to receiving the copy/move instruction, the identified files are placed in a copy/move queue. The total data size for the complete copy/move operation is then computed as the sum of the file sizes for all of the
15 files that are to be copied/moved.

 Either before, after, or at the same time as the calculation of the total data size, a status graphical user interface (GUI) is displayed. The GUI includes information pertaining to the progress of the copy/move
20 process for a particular file, the progress of the entire copy/move operation, a listing of files and their associated attributes that are to be copied/moved in the present copy/move operation, estimated times of completion, and virtual buttons and boxes for modifying
25 the copy/move operation or the view of the GUI.

 Once the GUI is displayed, the copy/move operation is initiated with the first file in the copy/move queue. The copy/move process begins by first determining if the file has been designated by the user to be skipped. A
30 user may enter, via an input device, a command for the copy/move operation to skip a particular file that is to

Docket No. AUS990915US1

be copied/moved. The command may be entered during the copy/move operation but before the file is copied/moved. If a skip command has been entered for the file, the copying/moving of the file is not performed and the
5 copy/move operation proceeds to the next file in the copy/move queue.

If the skip command is entered after a file has been copied/moved, the skip command will be interpreted as a delete command requesting that the designated file be
10 deleted from the copy/move destination location.

If a skip command has not been entered for the current file, the file data is then copied/moved from the current file to a destination location. During the copying/moving of data from the current file to the
15 destination location, a copy/move rate of the copy/move operation is measured. A current file size is also determined and used, along with the copy/move rate and the total data size for the copy/move operation, to
20 dynamically update estimated times of completion for one or both of the current file copy/move operation and the total copy/move operation.

In addition, the amount of data that has been copied is determined and used, along with the current file size and the total data size for the copy/move operation, to
25 update progress bars associated with the current file copy/move operation and the total copy/move operation.

Additionally, the user may change the order in which the GUI displays the files in the copy/move queue or the order in which the files are actually copied/moved in the
30 copy/move queue. Thus, with the present invention, a user is informed of the progress of a copy/move operation by providing information pertaining to files that have

Docket No. AUS990915US1

already been copied/moved in the copy/move operation, and
also information pertaining to the particular file being
copied/moved, the files that are pending in the copy/move
queue, the estimated time of completion, and a progress
5 bar graphically depicting the portion of the file and the
portion of the entire copy/move operation completed. In
addition, the user may modify the copy/move operation by
instructing the processor to skip files, delete files,
and change the order in which files are copied/moved.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054
1055
1056
1057
1058
1059
1060
1061
1062
1063
1064
1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141
1142
1143
1144
1145
1146
1147
1148
1149
1150
1151
1152
1153
1154
1155
1156
1157
1158
1159
1160
1161
1162
1163
1164
1165
1166
1167
1168
1169
1170
1171
1172
1173
1174
1175
1176
1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192
1193
1194
1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206
1207
1208
1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221
1222
1223
1224
1225
1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264
1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283
1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298
1299
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364
1365
1366
1367
1368
1369
1370
1371
1372
1373
1374
1375
1376
1377
1378
1379
1380
1381
1382
1383
1384
1385
1386
1387
1388
1389
1390
1391
1392
1393
1394
1395
1396
1397
1398
1399
1400
1401
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413
1414
1415
1416
1417
1418
1419
1420
1421
1422
1423
1424
1425
1426
1427
1428
1429
1430
1431
1432
1433
1434
1435
1436
1437
1438
1439
1440
1441
1442
1443
1444
1445
1446
1447
1448
1449
1450
1451
1452
1453
1454
1455
1456
1457
1458
1459
1460
1461
1462
1463
1464
1465
1466
1467
1468
1469
1470
1471
1472
1473
1474
1475
1476
1477
1478
1479
1480
1481
1482
1483
1484
1485
1486
1487
1488
1489
1490
1491
1492
1493
1494
1495
1496
1497
1498
1499
1500
1501
1502
1503
1504
1505
1506
1507
1508
1509
1510
1511
1512
1513
1514
1515
1516
1517
1518
1519
1520
1521
1522
1523
1524
1525
1526
1527
1528
1529
1530
1531
1532
1533
1534
1535
1536
1537
1538
1539
1540
1541
1542
1543
1544
1545
1546
1547
1548
1549
1550
1551
1552
1553
1554
1555
1556
1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586
1587
1588
1589
1590
1591
1592
1593
1594
1595
1596
1597
1598
1599
1600
1601
1602
1603
1604
1605
1606
1607
1608
1609
1610
1611
1612
1613
1614
1615
1616
1617
1618
1619
1620
1621
1622
1623
1624
1625
1626
1627
1628
1629
1630
1631
1632
1633
1634
1635
1636
1637
1638
1639
1640
1641
1642
1643
1644
1645
1646
1647
1648
1649
1650
1651
1652
1653
1654
1655
1656
1657
1658
1659
1660
1661
1662
1663
1664
1665
1666
1667
1668
1669
1670
1671
1672
1673
1674
1675
1676
1677
1678
1679
1680
1681
1682
1683
1684
1685
1686
1687
1688
1689
1690
1691
1692
1693
1694
1695
1696
1697
1698
1699
1700
1701
1702
1703
1704
1705
1706
1707
1708
1709
1710
1711
1712
1713
1714
1715
1716
1717
1718
1719
1720
1721
1722
1723
1724
1725
1726
1727
1728
1729
1730
1731
1732
1733
1734
1735
1736
1737
1738
1739
1740
1741
1742
1743
1744
1745
1746
1747
1748
1749
1750
1751
1752
1753
1754
1755
1756
1757
1758
1759
1760
1761
1762
1763
1764
1765
1766
1767
1768
1769
1770
1771
1772
1773
1774
1775
1776
1777
1778
1779
1780
1781
1782
1783
1784
1785
1786
1787
1788
1789
1790
1791
1792
1793
1794
1795
1796
1797
1798
1799
1800
1801
1802
1803
1804
1805
1806
1807
1808
1809
1810
1811
1812
1813
1814
1815
1816
1817
1818
1819
1820
1821
1822
1823
1824
1825
1826
1827
1828
1829
1830
1831
1832
1833
1834
1835
1836
1837
1838
1839
1840
1841
1842
1843
1844
1845
1846
1847
1848
1849
1850
1851
1852
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
2045
2046
2047
2048
2049
2050
2051
2052
2053
2054
2055
2056
2057
2058
2059
2060
2061
2062
2063
2064
2065
2066
2067
2068
2069
2070
2071
2072
2073
2074
2075
2076
2077
2078
2079
2080
2081
2082
2083
2084
2085
2086
2087
2088
2089
2090
2091
2092
2093
2094
2095
2096
2097
2098
2099
2100
2101
2102
2103
2104
2105
2106
2107
2108
2109
2110
2111
2112
2113
2114
2115
2116
2117
2118
2119
2120
2121
2122
2123
2124
2125
2126
2127
2128
2129
2130
2131
2132
2133
2134
2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
2146
2147
2148
2149
2150
2151
2152
2153
2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2

BRIEF DESCRIPTION OF THE DRAWINGS

5 The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed
10 description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

Figure 1 is an exemplary diagram of a data processing apparatus in which the present invention may be implemented;

15 **Figure 2** is an exemplary block diagram of a processing system in which the present invention may be implemented;

Figure 3 is an exemplary diagram of a copy/move status graphical user interface according to the present
20 invention;

Figure 4 is a flowchart outlining an exemplary operation for performing the copy/move operation according to the present invention; and

Figure 5 is a flowchart outlining an exemplary
25 operation for modifying a copy/move operation according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

5 **Figure 1** is an exemplary diagram of a data processing apparatus in which the present invention may be implemented. The particular data processing apparatus shown in **Figure 1** is a computer **100** however, other data processing apparatus, such as networked workstations, network server apparatus, and the like may be used as the data processing apparatus of the present invention. The computer **100** is used with the present invention to provide a copy/move graphical user interface, such as the graphical user interface depicted in **Figure 3**.

15 The computer **100** may include a system unit **110**, a video display terminal **102**, a keyboard **104**, storage devices **108**, which may include floppy drives and other types of permanent and removable storage media, and pointing device **106**, such as a computer mouse.

20 Additional input devices may be included with the computer **100**, such as a joystick, gamepad, touchpad, touchscreen, trackball, microphone, and the like. Computer **100** also preferably includes a graphical user interface that may be implemented by means of systems

25 software residing in computer readable media in operation within computer **100**.

 With reference now to **Figure 2**, a block diagram illustrates a data processing system **200** in which the present invention may be implemented. Data processing

30 system **200** is an example of a computer, such as computer **100** in **Figure 1**, in which code or instructions

Docket No. AUS990915US1

implementing the processes of the present invention may be located. Data processing system **200** employs a peripheral component interconnect (PCI) local bus architecture.

Although the depicted example employs a PCI bus, other bus architectures such as Accelerated Graphics Port (AGP) and
5 Industry Standard Architecture (ISA) may be used.

Processor **202** and main memory **204** are connected to PCI local bus **206** through PCI bridge **208**. PCI bridge **208** also may include an integrated memory controller and cache
10 memory for processor **202**. Additional connections to PCI local bus **206** may be made through direct component interconnection or through add-in boards. In the depicted example, local area network (LAN) adapter **210**, small computer system interface (SCSI) host bus adapter **212**, and
15 expansion bus interface **214** are connected to PCI local bus **206** by direct component connection. In contrast, audio adapter **216**, graphics adapter **218**, and audio/video adapter **219** are connected to PCI local bus **206** by add-in boards inserted into expansion slots. Expansion bus interface
20 **214** provides a connection for a keyboard and mouse adapter **220**, modem **222**, and additional memory **224**. SCSI host bus adapter **212** provides a connection for hard disk drive **226**, tape drive **228**, and CD-ROM drive **230**. Typical PCI local bus implementations will support three or four PCI
25 expansion slots or add-in connectors.

An operating system runs on processor **202** and is used to coordinate and provide control of various components within data processing system **200** in **Figure 2**. The operating system may be a commercially available operating
30 system, such as OS/2 which is available from International

Docket No. AUS990915US1

Business Machines Corporation. "OS/2" is a trademark of International Business Machines Corporation. Instructions for the operating system, the object-oriented operating system, and applications or programs are located on
5 storage devices, such as hard disk drive **226**, and may be loaded into main memory **204** for execution by processor **202**.

Those of ordinary skill in the art will appreciate that the hardware in **Figure 2** may vary depending on the
10 implementation. Other internal hardware or peripheral devices, such as flash ROM (or equivalent nonvolatile memory) or optical disk drives and the like, may be used in addition to or in place of the hardware depicted in **Figure 2**. Also, the processes of the present invention
15 may be applied to a multiprocessor data processing system.

For example, data processing system **200**, if optionally configured as a network computer, may not include SCSI host bus adapter **212**, hard disk drive **226**,
20 tape drive **228**, and CD-ROM **230**, as noted by dotted line **232** in **Figure 2** denoting optional inclusion. In that case, the computer, to be properly called a client computer, must include some type of network communication interface, such as LAN adapter **210**, modem **222**, or the
25 like. As another example, data processing system **200** may be a stand-alone system configured to be bootable without relying on some type of network communication interface, whether or not data processing system **200** comprises some type of network communication interface. As a further
30 example, data processing system **200** may be a Personal Digital Assistant (PDA) device which is configured with

Docket No. AUS990915US1

ROM and/or flash ROM in order to provide non-volatile memory for storing operating system files and/or user-generated data.

5 The depicted example in **Figure 2** and above-described examples are not meant to imply architectural limitations. For example, data processing system **200** also may be a notebook computer or hand held computer in addition to taking the form of a PDA. Data processing system **200** also may be a kiosk or a Web appliance.

10 The processor **202** performs the functions described herein, based on instructions obtained from a user and computer program instructions stored, for example, in main memory **204**, in memory **224**, or instructions contained on one or more peripheral devices **226-230**. In a
15 preferred embodiment, the processor **202** performs the functions in a Microsoft Windows™ operating environment, although other windowed or non-windowed operating environments may be utilized without departing from the spirit and scope of the present invention.

20 The processor **202** receives a copy/move instruction from a user via the pointing device **106**, keyboard **104**, or the like, and keyboard and mouse adapter **220**. A copy instruction is an instruction to create a copy of an existing file and place it in a designated location.
25 Typically, the copy instruction may be input by selecting files to be copied and then selecting a destination location to which the files are to be copied.

Alternatively, the copy instruction may be received from an executing computer program, such as an
30 installation program for installing a computer program. In such a case, the files to be copied are identified by

Docket No. AUS990915US1

the installation program.

Regardless of whether the copy instruction is received from a user or an executing computer program, the principles of this invention equally apply. The
5 initial order in which files are copied to the destination location is set based on either the order in which the user selects the files to be copied or an order set by the executing computer program (e.g. an install program for installing a computer application, and the
10 like). The following description of the invention will assume that the copy instruction is received from a user.

The selection of the files may be performed, for example, by highlighting a first file using a mouse **106**, pressing a "shift" key on the keyboard **104** and
15 highlighting additional files to be copied. The destination location may be selected by, for example, dragging the highlighted files to a particular directory on a hard disk or peripheral device. Such copying instructions are generally known to those of ordinary
20 skill in the art.

Similarly, a move instruction is a copy instruction in which the original file is deleted. Thus, for purposes of the description of this invention, a copy instruction will be assumed. However, the details of
25 this invention are equally applicable to a move instruction.

The actual functions of copying or moving files from one directory to another, or from one computer resource, network resource, or the like, to another are widely
30 known in the art. Operating systems, such as DOS, Windows, and the like make use of copy and move functions

Docket No. AUS990915US1

on a routine basis. Therefore, the actual copy/move function will not be discussed herein in detail.

The copy instruction received by the processor **202** indicates the files that are to be copied and the
5 destination location of the copied files. In response to receiving the copy instruction, the processor **202** places the identified files in a copy queue in main memory **204**, for example. The processor **202** calculates the total data
10 size is the sum of the file sizes for the files that are to be copied. Thus, if three files having respective sizes, 100KB, 200KB and 300KB, are to be copied, the total data size for the copy operation will be 600KB.

The processor **202** also instructs the graphics
15 adapter **218** to create a copy status graphical user interface, hereafter referred to as the GUI, which is then displayed by a display device, such as display **102**, via the audio/video adapter **219**. The GUI includes information pertaining to the progress of the copy
20 process for a particular file, the progress of the entire copy operation, a listing of files and their attributes that have been copied, are being copied, and are pending to be copied in the present copy operation, estimated remaining times for completion, and virtual buttons and
25 boxes for modifying the copy operation or the view of the GUI.

Once the GUI is displayed, the copy operation is initiated with the first file in the copy queue. The processor **202** begins the copy process by first
30 determining if this file has been designated by the user to be skipped. A user may enter, via the keyboard **104**,

Docket No. AUS990915US1

mouse **106**, or other input device, a command for the copy operation to skip a particular file that is to be copied. The command may be entered prior to initiation of the copy operation or during the copy operation but before
5 the file is copied. If a skip command has been entered for the file, the copying of the file is not performed and the copy operation proceeds to the next file in the copy queue.

If the skip command is entered after a file has been
10 copied, the skip command will be interpreted by the processor **202** as a delete command requesting that the designated file that was previously copied be deleted from the destination location. The deletion of a file from the destination location will be described in more
15 detail hereafter.

If a skip command has not been entered for the current file, the processor **202** begins to copy data from the current file to a destination location. The destination location may be on an internal or external
20 device. For example, the copy operation may copy files from an internal hard drive to a storage medium in a floppy drive, CD-ROM drive, ZIP drive, magnetic tape drive or other external storage medium.

The processor **202**, during the copying of data from
25 the current file to the destination location, measures a copy rate of the copy operation. The copy rate may be, for example, in bits per second, bytes per second, or the like. The processor **202** also determines the current file size and uses this information along with the copy rate
30 and the total data size for the copy operation, to update estimated times of completion for one or both of the

Docket No. AUS990915US1

current file copy operation and the total copy operation.

In addition, the processor **202** determines the amount of data that has been copied and uses this information along with the current file size and the total data size
5 for the copy operation to update progress bars associated with the current file copy operation and the total copy operation. If a complete file has been copied, the displayed listing of files in the queue is modified to designate that the file has been copied.

10 Once the entire copy operation has been completed, those files that have been marked as delete will be deleted from the destination location. A confirmation message may be displayed to the user so that the user may select a virtual button authorizing the deletion of the
15 marked files or abort the deletion of these files.

Furthermore, during the copy operation, a user may enter a cancel command in order to cancel the entire copy operation. If the cancel command is entered, all files still pending to be copied will not be copied, a current
20 copy operation is aborted, and all the files are removed from the copy queue. The cancel command may be entered by the user via any type of input device, such as pressing an appropriate key or combination of keys on a keyboard, selecting a virtual "cancel" button via a
25 pointing device, entering a verbal command via a voice recognition device, and the like.

Additionally, the user may change the order in which the GUI displays the files in the copy queue or the order in which the files are actually copied in the copy queue.
30 For example, a user may instruct the GUI to display the files in alphabetical order, by increasing or decreasing size, by date of creation, and the like. The user may

Docket No. AUS990915US1

change the order in which the files will be copied by rearranging the displayed listing of files in the copy queue.

Thus, with the present invention, a user is informed
5 of the progress of a copy/move operation by providing information pertaining to the particular file being copied, the files that have been copied, the files that are pending in the copy queue, the estimated time of completion, and a progress bar graphically depicting the
10 portion of the file currently being copied and the portion of the entire copy operation completed. In addition, the user may modify the copy operation by instructing the processor to skip files, delete files, and change the order in which files are copied.

15 **Figure 3** is an exemplary diagram of a copy status GUI **300** according to the present invention. In this example, the GUI **300** is present in response to a copy instruction or command. This copy instruction may be administered by a command line interface or a GUI. With
20 a GUI, a program such as Windows Explorer in Windows 98 may be used to select and copy multiple files.

As shown in **Figure 3**, the GUI **300** includes a field
25 **305** for identifying the filename of the current file being copied and the source and destination paths from and to which the file is being copied. The GUI **300** further includes a current file progress bar **310**, an estimated time **315** remaining for the copying of the current file, an estimated time **320** for completion of the entire copy operation, a graphical icon illustrating the
30 copy function, a virtual cancel button **330**, a copy session (or operation) progress bar **335**, and a copy queue

Docket No. AUS990915US1

display **340**.

In this example, the graphical icon **325** may be stagnant or animated. The progress bars **310** and **335** "fill up" as the copy operation progresses. The virtual
5 cancel button **330** may be selected in order to cancel the entire copy operation.

The copy session progress bar **335** may further include an indication of which file in the queue is currently being copied, such as "copying file 5 of 7."
10 The estimated remaining times **315** and **320** are updated as the copy operation progresses, thereby decreasing as more data of the files is copied to the destination location. The estimated remaining times **315** and **320** may increase if, during a previous estimation, the copy rate was
15 higher than the current copy rate.

The copy queue display **340** includes header buttons, such as "#", "Name", "Size", "Skip/Remove File", and the like, designating fields of the copy queue display for the various file attributes. The copy queue display **340**
20 further includes a listing of files that are in the copy queue along with their respective attributes, in accordance with the header buttons. For example, each file in the copy queue is displayed with a copy order number, the filename of the file along with an indicator
25 of whether the file has been copied or not, a file size, a skip/remove file indicator, and other file attributes, such as date of creation, and the like.

As files are copied to the designated destination location, the copy indicator is changed from a "not
30 copied" indicator to a "copied" indicator. In the particular example shown in **Figure 3**, the "not copied"

Docket No. AUS990915US1

indicator is an empty box while the "copied" indicator is a box with a check mark.

Similarly, the skip/remove file indicator for each file is either a "do not skip/remove" indicator or a "skip/remove" indicator. In the example shown in **Figure 3**, the "do not skip/remove" indicator is an empty box while the "skip/remove" indicator is a box with an "X" and an associated text message that indicates whether the file will be skipped or deleted.

When a user selects the "do not skip/remove" indicator for a file that has not yet been copied, the "do not skip/remove" indicator will be changed to a "skip" indicator. Thus, the file will be skipped when the copy operation progresses to this file. If a user selects the "do not skip/remove" indicator for a file that has already been copied, the indicator will be changed to a "delete" indicator. As a result, the file will be deleted from the destination location when the total copy operation is completed. The skip or delete status of a file may be removed by again selecting the skip/remove indicator.

The header buttons of the copy queue display **340** may be selected in a first mode to change the view of the copy queue display **340** or in a second mode to change the order in which the files are copied. For example, if the "Name" header button is selected with a pointing device, such as a mouse, with a left mouse button, the listing of files in the copy queue display **340** may be changed so that the listing is in alphabetical order. If the "Name" header is again selected with the left mouse button, the listing may be changed to be in reverse alphabetical

Docket No. AUS990915US1

order. The same changes in view may be performed with file size (in order of increasing or decreasing size), date of creation (most recent to oldest or vice versa), and the like. Changing the view of the copy queue

5 display **340** does not change the order in which files are copied to the destination location.

Furthermore, the header buttons may be selected in a second mode, such as by a right mouse button, to change the order in which the files are copied to the
10 destination location. For example, if the "Size" header is selected using the right mouse button, the order in which the files are copied will be changed to an order of smallest file size to largest file size. If the "Size" header is again selected using the right mouse button,
15 the order will be changed to largest file size to smallest file size. The reordering only affects those files that have not already been copied to the destination location. The view of the copy queue display **340** may be modified accordingly to reflect the change in
20 the copy order.

In addition to changing the copy order using the header buttons, the copy order may be changed by selecting a file listing in the copy queue display **340** and then selecting a new position for the file listing in
25 the copy queue display **340**. For example, in the example shown in **Figure 3**, the file "file6.cpp" may be selected using a mouse and dragged to a position before "file5.exe." Thus, the copy order of the non-copied files in the copy queue will be changed such that
30 "file6.cpp" will be copied before "file5.exe." This ability to change the copy order may be advantageous if

Docket No. AUS990915US1

the user determines that he/she does not want to wait for "file5.exe," which is a very large file, to be copied before the relatively smaller file "file6.cpp" is copied.

Thus, the present invention provides the user with
5 many options for modifying a copy operation while the copy operation is being executed. Furthermore, the present invention provides the user with detailed information about the copy operation so that the user may make informed decisions as to whether the copy operation
10 satisfies the user's needs or whether the copy operation needs to be modified to suit the user's needs.

Figure 4 is a flowchart outlining an exemplary operation for performing a copy operation in accordance with the present invention. The operation starts with a
15 copy/move instruction being received from a user (step **405**). A list of the files that are to be copied/moved is then retrieved from the copy/move queue (step **410**). A total data size for the copy/move operation is calculated (step **415**) and the copy/move GUI is displayed (step **420**).

20 The copy/move operation for the next file in the copy/move queue is started (step **425**) and it is determined whether or not the file is to be skipped (step **430**). If the file is to be skipped (step **430:YES**), the operation skips the file and starts the copy/move
25 operation for the next file in the copy/move queue (step **425**). If the file is not to be skipped (step **430:NO**), the file data is copied to the selected destination location (step **435**). The rate at which the data is copied/moved is determined (step **440**) and the estimated
30 times remaining in the copying of the current file and the entire copy operation are updated (step **450**). The

Docket No. AUS990915US1

GUI may then be updated to reflect the updated estimated remaining times.

The amount of data that has been copied/moved is then determined (step **455**) and the progress bars for the
5 current file and the copy operation are updated accordingly (step **460**). It is then determined whether the copy operation has been canceled by the user inputting a cancel command (step **465**). If there has been a cancel command entered (step **465:YES**), the copy/move
10 operation is stopped (step **470**) and the operation ends (step **495**). If the cancel command has not been entered (step **465:NO**), it is determined whether or not the entire current file has been copied/moved (step **475**). If the current file has not been completely copied/moved (step
15 **475:NO**), the operation continues to copy/move data to the destination location (step **435**). If the current file has been completely copied/moved (step **475:YES**), a determination is made as to whether the entire copy/move operation has been completed (step **480**).

20 If the entire copy/move operation has not been completed (step **480:NO**), the copying/moving operation proceeds to the next file in the copy/move queue (step **425**). If the entire copy/move operation has been completed (step **480:YES**), it is determined whether any of
25 the files copied were designated "delete" by the user during the copy operation (step **485**). If so (step **485:YES**), the files designated "delete" are deleted from the destination location (step **490**). This may occur after first asking the user to confirm the deletion of
30 the files. If no files are designated "delete" (step

485:NO), the copy/move operation ends (step 495).

Figure 5 is a flowchart outlining an exemplary operation for modifying the copy order in a copy queue according to the invention. The operation shown in

5 Figure 5 is equally applicable to a move operation.

As shown in Figure 5, the operation starts with receiving a reorder instruction from a user (step 510). As described above, this reorder instruction may be from a second mode selection of a header button or from moving
10 queue items within the copy/move queue. A determination is then made as to whether the files to be reordered have not been copied or are not currently being copied (step 520). If the files have already been copied or are currently being copied (step 530:YES), an error message
15 is sent to the user (step 540) and the reorder operation is ended (step 570).

If the files have not already been copied or are not currently being copied (step 530:NO), the files are reordered according to the particular reorder instruction received (step 550), i.e. by file size, file name,
20 particular position in the copy queue, and the like. The displayed copy queue is then updated based on the reordering of the files (step 560) and the operations ends (step 570).

25 Thus, with the present invention, a user is provided with all the necessary information to monitor and modify a copy/move operation while the copy/move operation is being performed. In this way, the user is provided with greater control over the copy/move operation than was
30 previously possible with the known prior art.

It is important to note that while the present

Docket No. AUS990915US1

invention has been described in the context of a fully functioning data processing system, those of ordinary skill in the art will appreciate that the processes of the present invention are capable of being distributed in the form of a computer readable medium of instructions and a variety of forms and that the present invention applies equally regardless of the particular type of signal bearing media actually used to carry out the distribution. Examples of computer readable media include recordable-type media such a floppy disc, a hard disk drive, a RAM, and CD-ROMs and transmission-type media such as digital and analog communications links.

The description of the present invention has been presented for purposes of illustration and description, but is not intended to be exhaustive or limited to the invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art. For example, although **Figure 3** depicts a particular format, the GUI of the present invention may vary in presentation. For example, estimated times **315** and **320** may be present using dials rather than text and progress bars **310** and **335** may be vertical bars that fill up as the copy operation progresses or may be circles that fill up radially as the copy operation progresses. Other additional information, such as verification operations involved in copying files, also may be included on the GUI **300**. A location of the destination file on the storage device also may be illustrated. Many other modifications to the GUI **300** may be made without departing from the spirit and scope of the present invention.

Docket No. AUS990915US1

The embodiment was chosen and described in order to best explain the principles of the invention, the practical application, and to enable others of ordinary skill in the art to understand the invention for various
5 embodiments with various modifications as are suited to the particular use contemplated.

CLAIMS:

What is claimed is:

5

1. A method of copying computer files to a destination location, comprising:

receiving a copy instruction, the copy instruction identifying a plurality of computer files to be copied

10 and the destination location;

displaying attributes of the plurality of computer files simultaneously, in an order in which the plurality of computer files are to be copied; and

15 copying the plurality of computer files to the destination location in the order in which the plurality of computer files are to be copied.

20 2. The method of claim 1, wherein the plurality of computer files includes a currently copying computer file, the currently copying computer file being a computer file that is being copied at the same time the attributes of the plurality of computer files are displayed.

25 3. The method of claim 2, further comprising displaying a progress indicator indicating an amount of the currently copying computer file that has been copied to the destination location.

30 4. The method of claim 2, further comprising displaying an estimated time of completion of copying the currently

Docket No. AUS990915US1

copying computer file.

5. The method of claim 3, wherein displaying the progress indicator includes:

- 5 identifying a data size of the currently copying computer file;
- identifying an amount of data, corresponding to the currently copying computer file, that has already been copied to the destination location; and
- 10 displaying the progress indicator based on the data size of the currently copying computer file and the amount of data that has already been copied.

6. The method of claim 4, wherein displaying the estimated time of completion includes:

- 15 identifying a copy rate;
- identifying a data size of the currently copying computer file;
- identifying an amount of data, corresponding to the currently copying computer file, that has already been copied to the destination location; and
- 20 displaying the estimated time of completion based on the copy rate, the data size of the currently copying computer file and the amount of data that has already
- 25 been copied to the destination location.

7. The method of claim 1, further comprising displaying a progress indicator indicating an amount of data of the plurality of computer files that has been copied to the destination location.

30

8. The method of claim 1, further comprising displaying

Docket No. AUS990915US1

an estimated time of completion of copying the plurality of computer files to the destination location.

9. The method of claim 7, wherein displaying the progress indicator includes:
- identifying a data size of the plurality of computer files;
 - identifying an amount of data, corresponding to the plurality of computer files, that has already been copied to the destination location; and
 - displaying the progress indicator based on the data size of the plurality of computer files and the amount of data that has already been copied.
10. The method of claim 8, wherein displaying the estimated time of completion includes:
- identifying a copy rate;
 - identifying a data size of the plurality of computer files;
 - identifying an amount of data, corresponding to the plurality of computer files, that has already been copied to the destination location; and
 - displaying the estimated time of completion based on the copy rate, the data size of the plurality of computer files, and the amount of data that has already been copied.
11. The method of claim 1, further comprising rearranging, during copying of the plurality of computer files, the order in which the plurality of computer files are to be copied.

Docket No. AUS990915US1

12. The method of claim 11, wherein rearranging the order in which the plurality of computer files are to be copied includes selecting a computer file from the plurality of computer files, using the display of the plurality of computer files, and changing its position in the order in which the plurality of computer files are to be copied.

13. The method of claim 11, wherein rearranging the order in which the plurality of computer files are to be copied includes reordering the plurality of computer files based on one or more of the attributes of the plurality of computer files in accordance with a reorder criteria.

14. The method of claim 13, wherein the attributes of the plurality of computer files include at least one of a filename, a file data size and a creation date.

15. The method of claim 13, wherein the reorder criteria includes at least one of alphabetical order, reverse alphabetical order, smallest to largest file data size, largest to smallest file data size, oldest to most recent file creation date, and most recent to oldest file creation date.

16. The method of claim 1, wherein displaying the attributes of the plurality of computer files includes displaying the attributes of the plurality of computer files in a graphical user interface.

17. The method of claim 1, further comprising:

Docket No. AUS990915US1

receiving a skip command; and
changing a display of an attribute of a computer
file from the plurality of computer files to indicate
that the computer file is to be skipped during copying of
5 the plurality of computer files.

18. The method of claim 1, further comprising:
receiving a delete command; and
changing a display of an attribute of a computer
10 file from the plurality of computer files to indicate
that the computer file is to be deleted after copying of
the plurality of computer files.

19. The method of claim 18, further comprising deleting
15 computer files that have been indicated as being computer
files to be deleted, after copying of the plurality of
computer files, from the destination location.

20. The method of claim 17, further comprising not
20 copying computer files that have been indicated as being
computer files that are to be skipped during copying of
the plurality of computer files.

21. A data processing device in which computer files are
25 copied to a destination location, comprising:

a processor;
an input device; and
a display, wherein the processor receives a copy
instruction via the input device, the copy instruction
30 identifying a plurality of computer files to be copied
and the destination location, the processor instructs the
display to display attributes of the plurality of

Docket No. AUS990915US1

computer files simultaneously, in an order in which the plurality of computer files are to be copied, and wherein the processor copies the plurality of computer files to the destination location in the order in which the
5 plurality of computer files are to be copied.

22. The data processing device of claim 21, wherein the plurality of computer files includes a currently copying computer file, the currently copying computer file being
10 a computer file that is being copied at the same time the attributes of the plurality of computer files are displayed on the display.

23. The data processing device of claim 22, wherein the
15 processor further instructs the display to display a progress indicator indicating an amount of the currently copying computer file that has been copied to the destination location.

24. The data processing device of claim 22, wherein the
20 processor further instructs the display to display an estimated time of completion of copying the currently copying computer file.

25. The data processing device of claim 23, wherein the
25 processor identifies a data size of the currently copying computer file and an amount of data, corresponding to the currently copying computer file, that has already been copied to the destination location, and instructs the
30 display to display the progress indicator based on the data size of the currently copying computer file and the amount of data that has already been copied.

Docket No. AUS990915US1

26. The data processing device of claim 24, wherein the processor identifies a copy rate, a data size of the currently copying computer file, and an amount of data, corresponding to the currently copying computer file, that has already been copied to the destination location, and wherein the processor instructs the display displaying the estimated time of completion based on the copy rate, the data size of the currently copying computer file and the amount of data that has already been copied to the destination location.

27. The data processing device of claim 21, wherein the processor further instructs the display to display a progress indicator indicating an amount of data of the plurality of computer files that has been copied to the destination location.

28. The data processing device of claim 21, wherein the processor further instructs the display to display an estimated time of completion of copying the plurality of computer files to the destination location.

29. The data processing device of claim 27, wherein the processor identifies a data size of the plurality of computer files and an amount of data, corresponding to the plurality of computer files, that has already been copied to the destination location, and wherein the processor instructs the display to display the progress indicator based on the data size of the plurality of computer files and the amount of data that has already been copied.

30. The data processing device of claim 28, wherein the processor identifies a copy rate, a data size of the plurality of computer files and an amount of data,
5 corresponding to the plurality of computer files, that has already been copied to the destination location, and wherein the processor instructs the display to display the estimated time of completion based on the copy rate, the data size of the plurality of computer files, and the
10 amount of data that has already been copied.

31. The data processing device of claim 21, wherein the processor rearranges, during copying of the plurality of computer files, the order in which the plurality of
15 computer files are to be copied.

32. The data processing device of claim 31, wherein the processor rearranges the order in which the plurality of computer files are to be copied by receiving a selection
20 of a computer file from the plurality of computer files and changing its position in the order in which the plurality of computer files are to be copied.

33. The data processing device of claim 31, wherein the processor rearranges the order in which the plurality of computer files are to be copied by reordering the
25 plurality of computer files based on one or more of the attributes of the plurality of computer files in accordance with a reorder criteria.

30

34. The data processing device of claim 33, wherein the attributes of the plurality of computer files include at

Docket No. AUS990915US1

least one of a filename, a file data size and a creation date.

35. The data processing device of claim 33, wherein the
5 reorder criteria includes at least one of alphabetical
order, reverse alphabetical order, smallest to largest
file data size, largest to smallest file data size,
oldest to most recent file creation date, and most recent
to oldest file creation date.

10

36. The data processing device of claim 21, wherein the
processor instructs the display to display the attributes
of the plurality of computer files in a graphical user
interface.

15

37. The data processing device of claim 21, wherein a
skip command is received via the input device and the
processor instructs the display to change the display of
an attribute of a computer file from the plurality of
20 computer files to indicate that the computer file is to
be skipped during copying of the plurality of computer
files.

38. The data processing device of claim 21, wherein a
25 delete command is received via the input device and the
processor instructs the display to change the display of
an attribute of a computer file from the plurality of
computer files to indicate that the computer file is to
be deleted after copying of the plurality of computer
30 files.

39. The data processing device of claim 38, wherein the

Docket No. AUS990915US1

processor deletes computer files that have been indicated as being computer files to be deleted, after copying of the plurality of computer files, from the destination location.

5

40. The data processing device of claim 37, wherein the processor does not copy computer files that have been indicated as being computer files that are to be skipped during copying of the plurality of computer files.

10

41. A computer program product in a computer readable medium for copying computer files, comprising:

15 first instructions for receiving a copy instruction, the copy instruction identifying a plurality of computer files to be copied and the destination location;

second instructions for displaying attributes of the plurality of computer files simultaneously, in an order in which the plurality of computer files are to be copied; and

20 third instructions for copying the plurality of computer files to the destination location in the order in which the plurality of computer files are to be copied.

25 42. The computer program product of claim 41, wherein the plurality of computer files includes a currently copying computer file, the currently copying computer file being a computer file that is being copied at the same time the attributes of the plurality of computer
30 files are displayed.

43. The computer program product of claim 42, wherein

Docket No. AUS990915US1

the second instructions further include instructions for displaying a progress indicator indicating an amount of the currently copying computer file that has been copied to the destination location.

5

44. The computer program product of claim 42, wherein the second instructions further include instructions for displaying an estimated time of completion of copying the currently copying computer file.

10

45. The computer program product of claim 43, wherein the second instructions further include instructions for identifying a data size of the currently copying computer file, identifying an amount of data, corresponding to the currently copying computer file, that has already been copied to the destination location, and displaying the progress indicator based on the data size of the currently copying computer file and the amount of data that has already been copied.

15

46. The computer program product of claim 44, wherein the second instructions further include instructions for identifying a copy rate, identifying a data size of the currently copying computer file, identifying an amount of data, corresponding to the currently copying computer file, that has already been copied to the destination location, and displaying the estimated time of completion based on the copy rate, the data size of the currently copying computer file and the amount of data that has already been copied to the destination location.

20

47. The computer program product of claim 41, wherein

Docket No. AUS990915US1

the second instructions further include instructions for displaying a progress indicator indicating an amount of data of the plurality of computer files that has been copied to the destination location.

5

48. The computer program product of claim 41, wherein the second instructions further include instructions for displaying an estimated time of completion of copying the plurality of computer files to the destination location.

10

49. The computer program product of claim 47, wherein the second instructions further include instructions for identifying a data size of the plurality of computer files, identifying an amount of data, corresponding to the plurality of computer files, that has already been copied to the destination location, and displaying the progress indicator based on the data size of the plurality of computer files and the amount of data that has already been copied.

20

50. The computer program product of claim 48, wherein the second instructions include instructions for identifying a copy rate, identifying a data size of the plurality of computer files, identifying an amount of data, corresponding to the plurality of computer files, that has already been copied to the destination location, and displaying the estimated time of completion based on the copy rate, the data size of the plurality of computer files, and the amount of data that has already been copied.

30

51. The computer program product of claim 41, further

Docket No. AUS990915US1

comprising fourth instructions for rearranging, during copying of the plurality of computer files, the order in which the plurality of computer files are to be copied.

5 52. The computer program product of claim 51, wherein the fourth instructions include instructions for selecting a computer file from the plurality of computer files, using the display of the plurality of computer files, and changing its position in the order in which
10 the plurality of computer files are to be copied.

53. The computer program product of claim 51, wherein the fourth instructions include instructions for reordering the plurality of computer files based on one
15 or more of the attributes of the plurality of computer files in accordance with a reorder criteria.

54. The computer program product of claim 53, wherein the attributes of the plurality of computer files include
20 at least one of a filename, a file data size and a creation date.

55. The computer program product of claim 53, wherein the reorder criteria includes at least one of
25 alphabetical order, reverse alphabetical order, smallest to largest file data size, largest to smallest file data size, oldest to most recent file creation date, and most recent to oldest file creation date.

30 56. The computer program product of claim 41, wherein the second instructions further include instructions for displaying the attributes of the plurality of computer

Docket No. AUS990915US1

files in a graphical user interface.

57. The computer program product of claim 41, further comprising:

5 fourth instructions for receiving a skip command;
and

 fifth instructions for changing a display of an
attribute of a computer file from the plurality of
computer files to indicate that the computer file is to
10 be skipped during copying of the plurality of computer
files.

58. The computer program product of claim 41, further comprising:

15 fourth instructions for receiving a delete command;
and

 fifth instructions for changing a display of an
attribute of a computer file from the plurality of
computer files to indicate that the computer file is to
20 be deleted after copying of the plurality of computer
files.

59. The computer program product of claim 58, further
comprising sixth instructions for deleting computer files
25 that have been indicated as being computer files to be
deleted, after copying of the plurality of computer
files, from the destination location.

60. The computer program product of claim 57, further
30 comprising sixth instructions for not copying computer
files that have been indicated as being computer files
that are to be skipped during copying of the plurality of

Docket No. AUS990915US1

computer files.

61. A method, in a data processing system, for copying a plurality of files, the method comprising:

- 5 response to receiving a request to copy the plurality of files to a destination location, displaying an identification of the plurality of files in a graphical user interface in an order in which the plurality of files are to be copied to the destination;
- 10 copying the plurality of files to the destination in the order; and
- altering the identification of the plurality of files to indicate a progress in copying individual files within the plurality of files to the destination.

- 15
62. The method of claim 61, wherein the request is a first request and further comprising:
- responsive to receiving a second request to remove a file from the plurality of files, copying the file is
- 20 canceled and altering the graphical user interface to indicate cancellation of the copying of the file.

63. The method of claim 61, wherein the copying of the plurality of files removes the plurality of files from a
- 25 source of the plurality of files.

ABSTRACT OF THE DISCLOSURE

5

**Copy/Move Graphical User Interface
Apparatus and Method**

A copy/move graphical user interface apparatus and method. The apparatus displays a graphical user
10 interface informing a user of a current status of a copy/move operation. The graphical user interface includes progress bars indicating the progress of a current file copy/move operation as well as the overall copy/move operation. The graphic user interface further
15 includes estimated times of completion and a listing of files that are in a copy/move queue. Additionally, the graphical user interface allows a user to modify the order in which files are copied/moved and to skip or delete files in the copy/move queue.

Figure 1
AUS990915US1
Sheet 1 of 4

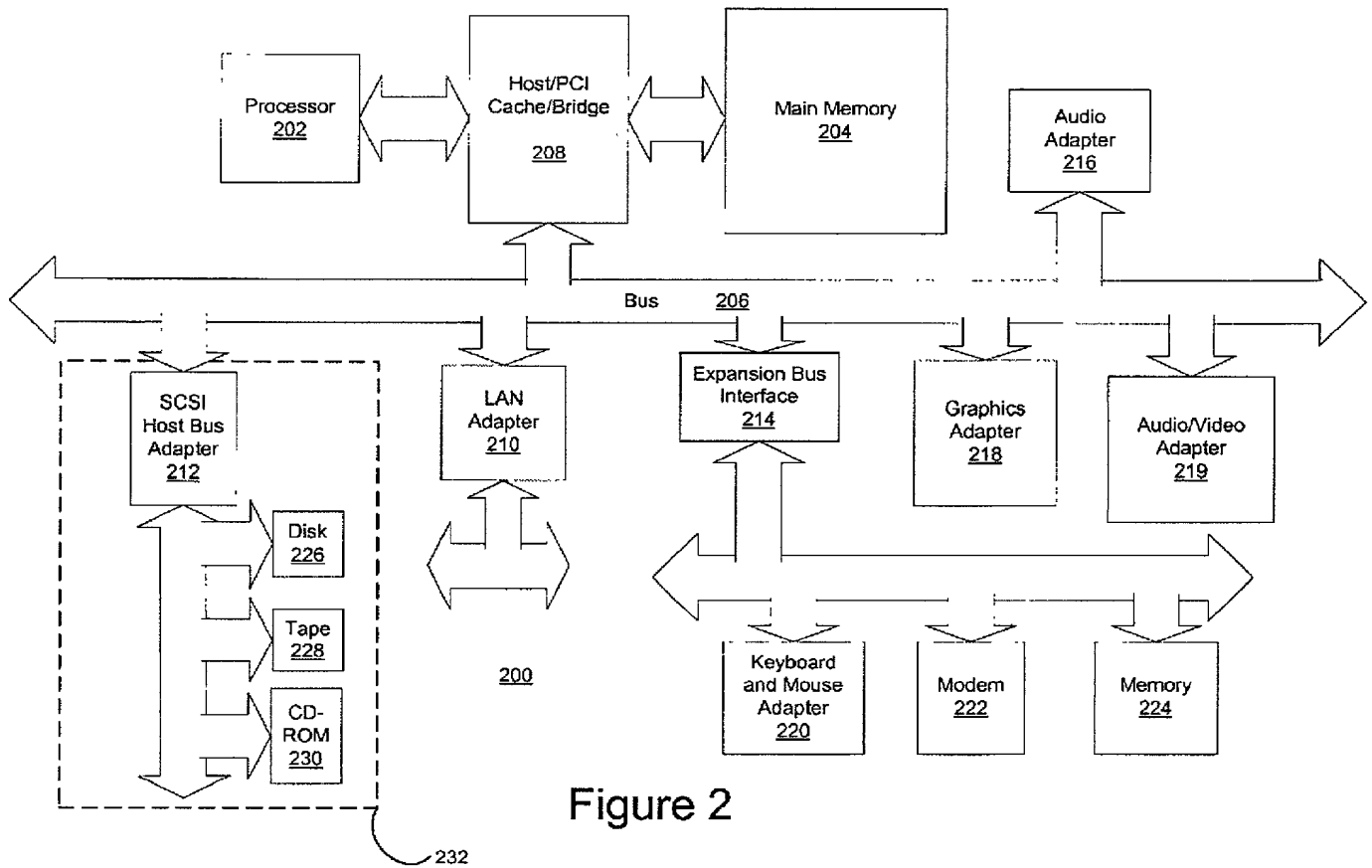
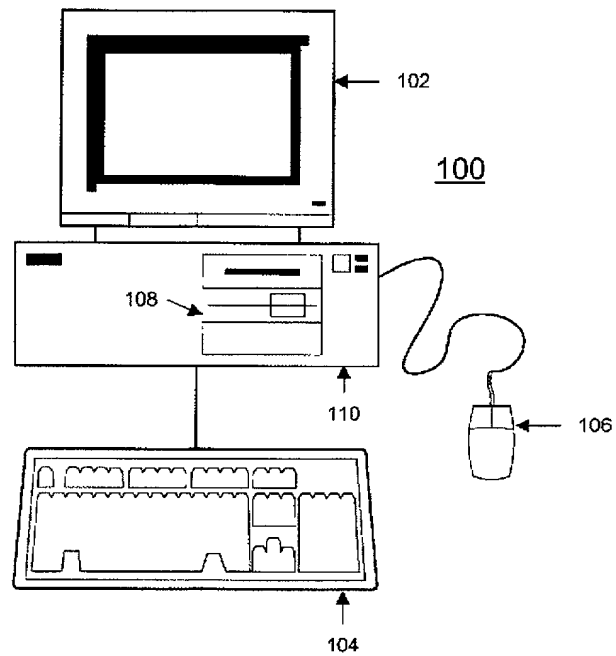


Figure 2

300

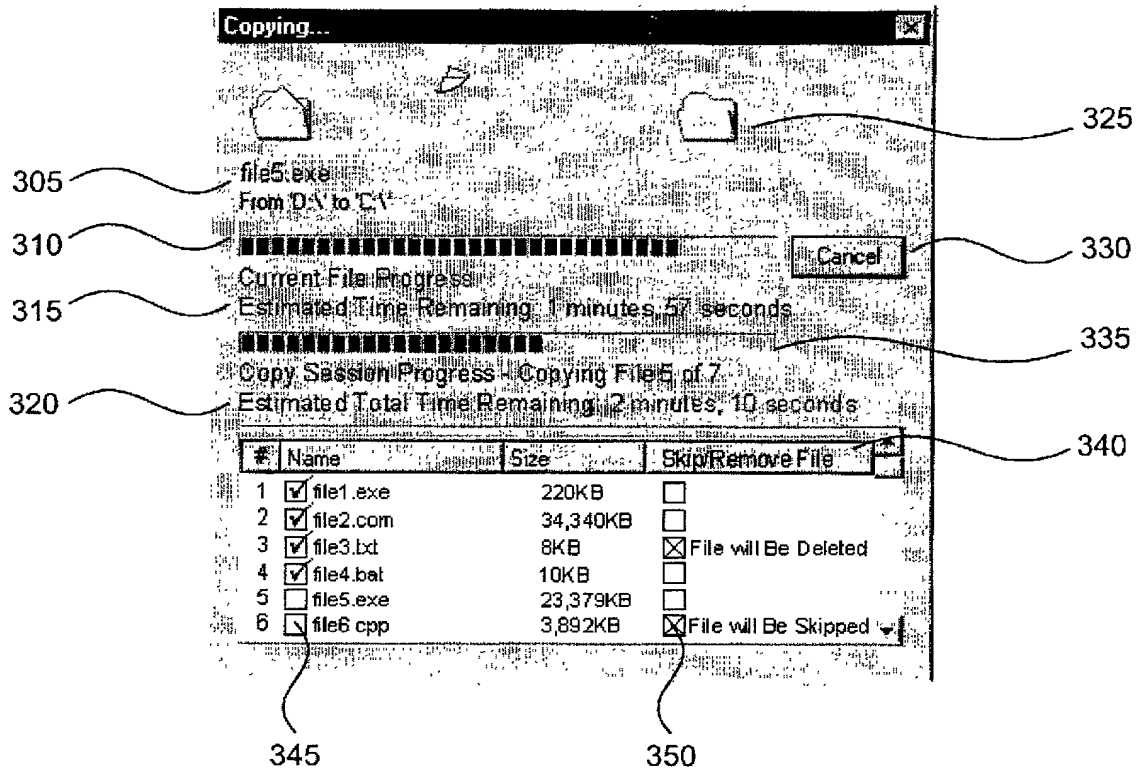


Figure 3

AUS990915US1
SHEET 2 of 4

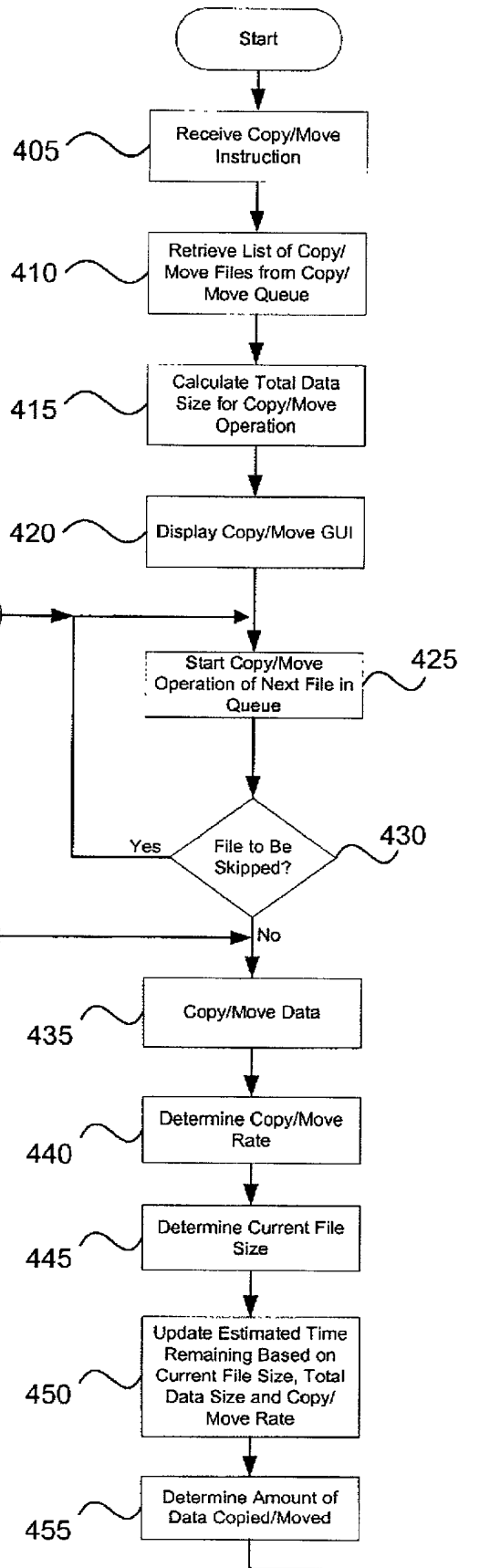
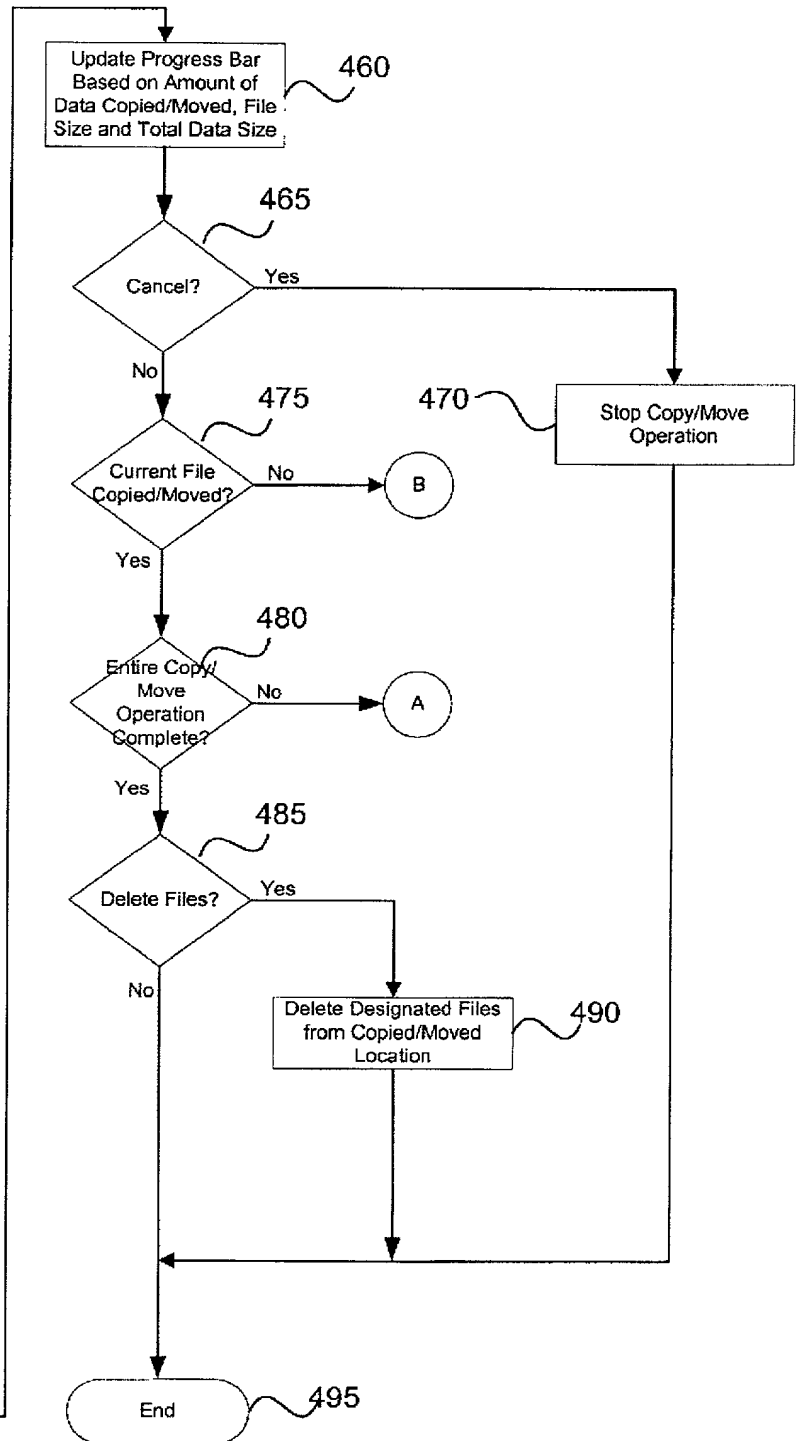
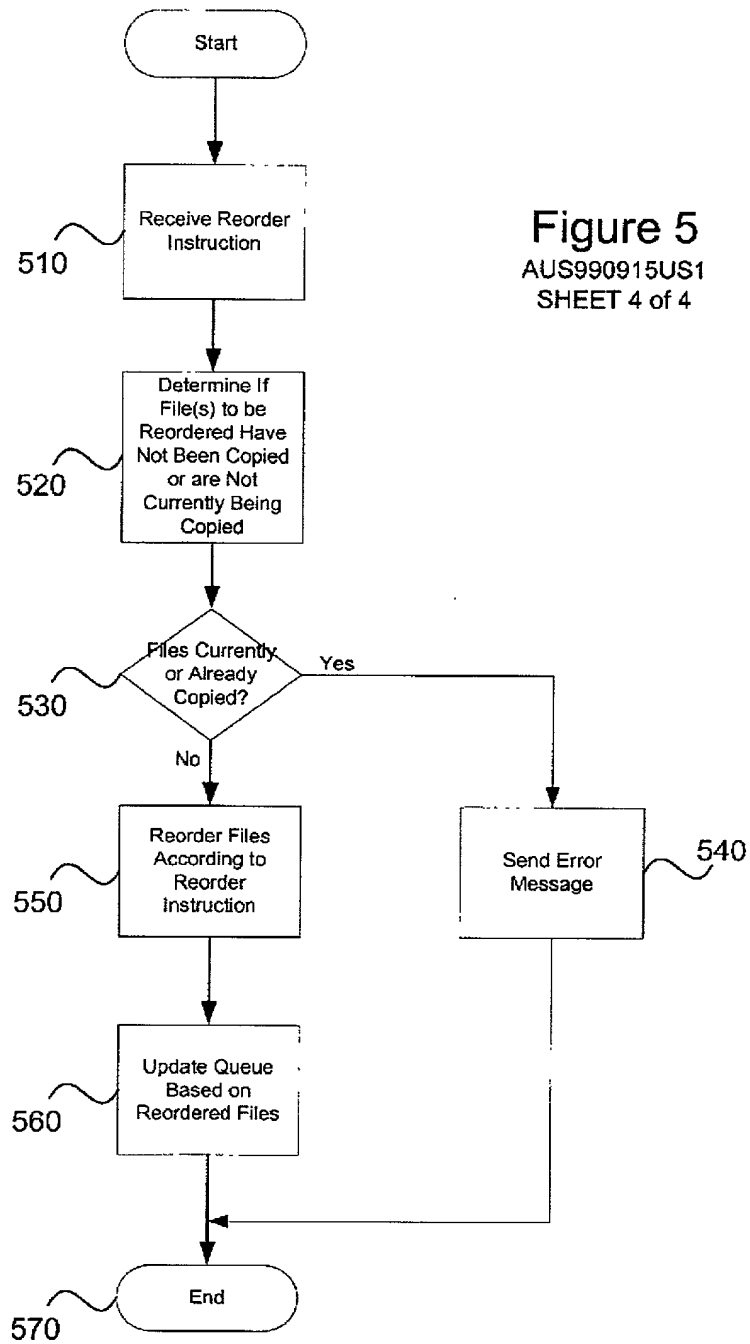


Figure 4

AUS990915US1

SHEET 3 of 4





**DECLARATION AND POWER OF ATTORNEY FOR
PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Copy/Move Graphical User Interface Apparatus and Method

the specification of which (check one)

X is attached hereto.

___ was filed on _____
as Application Serial No. _____
and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):	Priority Claimed
_____	___ Yes___ No
(Number)	(Country) (Day/Month/Year)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information material to the patentability of this application as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

_____	_____	_____
(Application Serial #)	(Filing Date)	(Status)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

John W. Henderson, Jr., Reg. No. 26,907; Thomas E. Tyson, Reg. No. 28,543; James H. Barksdale, Jr., Reg. No. 24,091; Casimer K. Salys, Reg. No. 28,900; Robert M. Carwell, Reg. No. 28,499; Douglas H. Lefevre, Reg. No. 26,193; Jeffrey S. LaBaw, Reg. No. 31,633; David A. Mims, Jr., Reg. 32,708; Volel Emile, Reg. No. 39,969; Anthony V. England, Reg. No. 35,129; Leslie A. Van Leeuwen, Reg. No. 42,196; Christopher A. Hughes, Reg. No. 26,914; Edward A. Pennington, Reg. No. 32,588; John E. Hoel, Reg. No. 26,279; Joseph C. Redmond, Jr., Reg. No. 18,753; Marilyn S. Dawkins, Reg. No. 31,140; Mark E. McBurney, Reg. No. 33,114; Duke W. Yee, Reg. No. 34,285; Colin P. Cahoon, Reg. No. 38,836; Joseph R. Burwell, Reg. No. 44,468; Rudolph J. Buchel, Reg. No. 43,448; and Stephen R. Loe, Reg. No. 43,757; and Stephen J. Walder, Jr., Reg. No. 41,534.

Send correspondence to: Duke W. Yee, Carstens, Yee & Cahoon, LLP, P.O. Box 802334, Dallas, Texas 75380, and direct all telephone calls to Duke W. Yee, (972) 367-2001.

FULL NAME OF SOLE OR FIRST INVENTOR: Baljeet Singh Baweja

INVENTORS SIGNATURE:  DATE: FEB 16, 2000

RESIDENCE: 10430 Morado Circle #1721
Austin, Texas 78759

CITIZENSHIP: United States

POST OFFICE ADDRESS: SAME AS ABOVE

FULL NAME OF SECOND INVENTOR: Kulvir Singh Bhogal

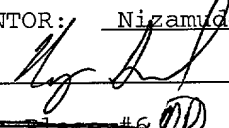
INVENTORS SIGNATURE:  DATE: Feb 16, 2000

RESIDENCE: 3401 Red River #157
Austin, Texas 78705

CITIZENSHIP: United States

POST OFFICE ADDRESS: SAME AS ABOVE

FULL NAME OF THIRD INVENTOR: Nizamudeen Ishmael, Jr.

INVENTORS SIGNATURE:  DATE: Feb 16, 2000

RESIDENCE: ~~1984 Robbins Place #6~~ 13331 Black Canyon Dr

DOCKET NUMBER: **AUS990915US1**

Austin, Texas, 78729 78705 (MD)

CITIZENSHIP: United States (MD)
Guyana

POST OFFICE ADDRESS: SAME AS ABOVE

FULL NAME OF FOURTH INVENTOR: Mandeep Singh Sidhu

INVENTORS SIGNATURE: *Mandeep* DATE: Feb 16, 2000

RESIDENCE: 1071 Clayton Lane #413
Austin, Texas 78723

CITIZENSHIP: United States

POST OFFICE ADDRESS: SAME AS ABOVE